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Indian Standard
SPECIFICATION FOR
MAIZE SUJI OR RAVA (SEMOLINA)

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SPECIFICATION FOR

MAIZE *SUJI* OR *RAVA* (SEMOLINA)

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Indian Standard

SPECIFICATION FOR MAIZE *SUJI* OR *RAVA* (SEMOLINA)

0. FOREWORD

0.1 This Indian Standard was adopted by the Indian Standards Institution on 25 July 1977, after the draft finalized by the Foodgrains and Foodgrain Products Sectional Committee had been approved by the Agricultural and Food Products Division Council.

0.2 Maize *SUJI* or *MAKKI KA RAVA* (Semolina) is a comparatively new product gaining popularity with the consumers. It is expected that this standard would facilitate the availability of maize *SUJI* of known quality.

0.2.1 Maize *SUJI* or *MAKKI KA RAVA* is manufactured by steam cooking, flaking, grinding and bolting of flaked grains to desired granularity and freeing it from bran, germ, etc, to the desired extent.

0.3 In the preparation of this Indian Standard, due consideration has been given to the relevant provisions of the Prevention of Food Adulteration Act, 1954 and the Rules framed thereunder. However, this standard is subject to the restrictions imposed under these, wherever applicable.

0.4 For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS : 2-1960*. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

1. SCOPE

1.1 This standard prescribes the requirements and the methods of sampling and test for maize *SUJI* or *RAVA* (semolina).

2. REQUIREMENTS

2.1 Description — The material shall be obtained from sound and clean maize. It shall have typical colour, taste and flavour of the variety of

*Rules for rounding off numerical values (*revised*).

maize. It shall be free from musty or other off odour, insect or fungus infestation, rodent contamination, adulterants and extraneous matter.

NOTE — The appearance, taste and odour shall be determined by organoleptic tests.

2.2 The material shall be manufactured in premises maintained under hygienic conditions (*see* IS : 2491-1972*).

2.3 Microscopic Appearance of Starch — When the finely powdered material is subjected to the microscopic examination, the starch granules shall have a characteristic appearance as shown in photo-micrograph reproduced in Fig. 1, revealing uniform polygonal shape. The hilum is fairly marked and is starred with fissures but no striae are observed. Distinct polarized crosses are seen.

2.4 Maize *SUJI* shall also comply with the requirements given in Table 1.

3. PACKING AND MARKING

3.1 Packing — The packages may preferably be of 1 kg, 2 kg, 10 kg, 20 kg, 40 kg, 65 kg, as desired by the purchaser.

3.1.1 Unless otherwise agreed to between the purchaser and the vendor, quantities above 65 kg shall be packed in single, sound A-twill or B-twill jute bags (*see* IS : 1943-1964† and IS : 2566-1965‡).

3.1.2 For quantities less than 65 kg (*see* 3.1), the material shall be packed in polyethylene or polyethylene lined jute bags or in bags of any other suitable material as agreed to between the purchaser and the vendor.

3.1.3 The mouth of each bag shall be either machine-stitched or hand-stitched. If it is hand-stitched, the mouth shall be rolled over and then stitched. The stitches shall be in two cross rows with at least 14 stitches in each row for jute bags of 65 kg and above.

3.2 Each bag shall bear legibly the following, in addition to the information as is necessary under the Packaged Commodities (Regulations) Order, 1975:

- a) Name of the material,
- b) Name and address of the manufacturer,
- c) Batch or code number, and
- d) Net mass.

*Code for hygienic conditions for food processing units (*first revision*).

†Specification for A-twill jute bags (*revised*).

‡Specification for B-twill jute bags (*revised*).

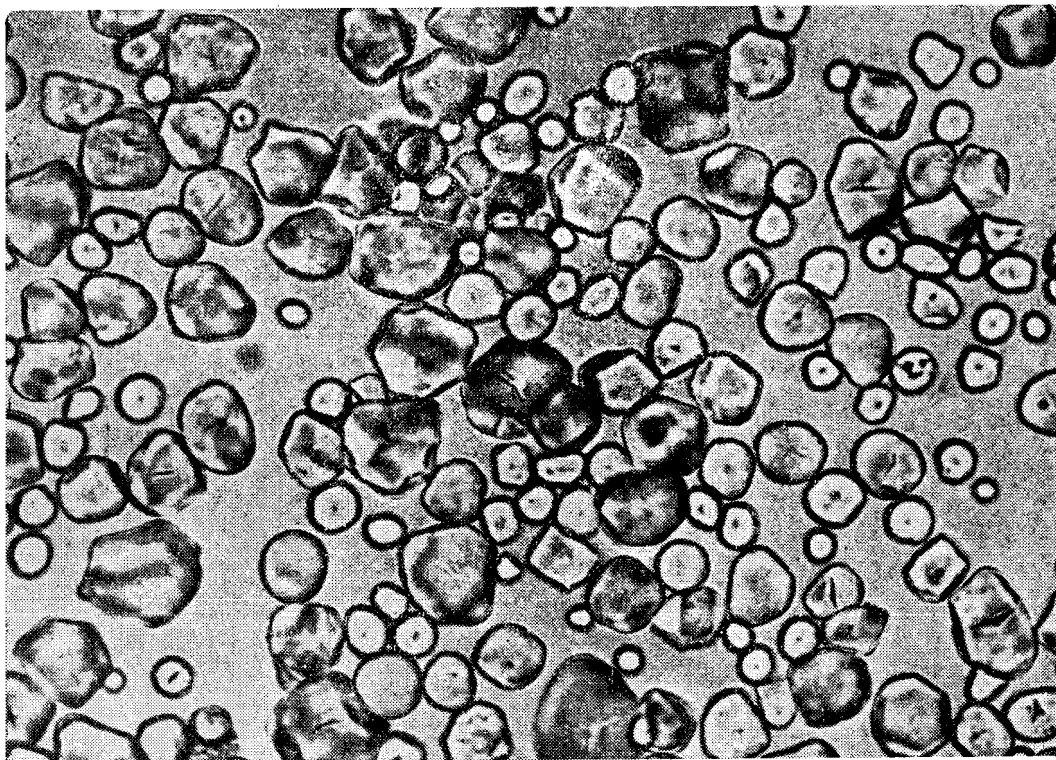


FIG. 1 PHOTOMICROGRAPH OF MAIZE STARCH ($\times 700$)

TABLE 1 REQUIREMENTS FOR MAIZE SUJI OR RAVA (SEMOLINA)
(Clause 2.4)

SL No.	CHARACTERISTIC	REQUIREMENT	METHOD OF TEST, REF TO
(1)	(2)	(3)	(4)
i)	Moisture, percent by mass, <i>Max</i>	13.0	Appendix A of IS : 1155-1968*
ii)	Total ash (on dry basis), percent by mass, <i>Max</i>	1.2	Appendix B of IS : 1155-1968*
iii)	Acid insoluble ash (on dry basis), percent by mass, <i>Max</i>	0.05	Appendix C of IS : 1155-1968*
iv)	Alcoholic acidity (as H_2SO_4), with 90 percent alcohol, percent by mass, <i>Max</i>	0.2	Appendix F of IS : 1155-1968*
v)	Crude fibre (on dry basis), percent by mass, <i>Max</i>	1.2	Appendix E of IS : 1155-1968*
vi)	Protein (on dry basis), percent by mass, <i>Min</i>	7.0	IS : 7219-1973†

*Specification for wheat *ATTA* (*second revision*).

†Method for determination of protein in foods and feeds.

3.2.1 The marking of the bags shall be done in such a manner that the dye or ink (*see* IS : 1234-1957*) used does not penetrate into the material.

3.2.2 Each bag may also be marked with the ISI Certification Mark.

NOTE — The use of the ISI Certification Mark is governed by the provisions of the Indian Standards Institution (Certification Marks) Act and the Rules and Regulations made thereunder. The ISI Mark on products covered by an Indian Standard conveys the assurance that they have been produced to comply with the requirements of that standard under a well-defined system of inspection, testing and quality control which is devised and supervised by ISI and operated by the producer. ISI marked products are also continuously checked by ISI for conformity to that standard as a further safeguard. Details of conditions under which a licence for the use of the ISI Certification Mark may be granted to manufacturers or processors, may be obtained from the Indian Standards Institution.

4. SAMPLING

4.1 The method of drawing representative samples of the material and the criteria for conformity shall be as prescribed in IS : 5315-1969†.

5. TESTS

5.1 Tests shall be carried out as prescribed under 2.3 and the appropriate appendices and Indian Standards referred to in col 4 of Table 1.

*Specification for ink stencil, oil base, for marking porous surfaces, colour as required.

†Methods of sampling for milled cereals and pulses products.

5.2 Quality of Reagents — Unless specified otherwise, pure chemicals and distilled water (*see* IS : 1070-1977*) shall be employed in tests.

NOTE — 'Pure chemicals' shall mean chemicals that do not contain impurities which affect the results of analysis.

*Specification for water for general laboratory use (*second revision*).

INDIAN STANDARDS

ON

FOODGRAINS AND FOODGRAIN PRODUCTS

IS :

- 1009-1968 *MAIDA (first revision)*
- 1010-1968 *SUJI or RAVA (Semolina) (first revision)*
- 1155-1968 Wheat *ATTA (second revision)*
- 1156-1957 Pearl barley
- 1157-1957 Barley powder
- 1158-1973 Corn flakes *(first revision)*
- 1484-1974 Rolled oats (quick cooking type) *(first revision)*
- 1485-1976 Macaroni, spaghetti and vermicelli *(first revision)*
- 2234-1962 *IDLI mix (first revision)*
- 2400-1976 *BESAN (first revision)*
- 2404-1972 Malt extract *(first revision)*
- 2639-1972 *PAPAD (first revision)*
- 2813-1970 Terminology for foodgrains *(first revision)*
- 2814-1964 Method for sampling of cereals and pulses
- 2815-1964 Slotted tube sampler
- 2816-1964 Grain sampler *(PARKHI type)*
- 2821-1964 Thermo-sampler
- 3714-1964 Method for sampling of bigger size foodgrains
- 3729-1966 Corn sampler *(PARKHI type)*
- 4333 Methods of analysis for foodgrains
 - 4333 (Part I)-1977 Part I Refractions *(first revision)*
 - 4333 (Part II)-1967 Part II Moisture
 - 4333 (Part III)-1967 Part III Determination of hectolitre weight
 - 4333 (Part IV)-1968 Part IV Weight of 1000 grains
 - 4333 (Part V)-1970 Part V Uric acid
- 4782-1968 Method for the determination of sedimentation value of wheat (flour)
- 4940-1968 Sample divider
- 5315-1969 Methods of sampling for milled cereals and pulses products
- 6261-1971 Method of analysis for detection of insect and rodent contamination in grains and milled products
- 6894-1973 Malting barley
- 6895-1973 Barley malt
- 7462-1974 Improver wheat
- 7463-1974 Wheat flour for use by biscuit industry
- 7464-1974 Wheat flour for use in bread manufacture
- 8162-1976 Method for determination of wet gluten in wheat flour
- 8184-1976 Method for determination of ergot in foodgrains
- 8574-1977 Maize *SUJI or RAVA (semolina)*